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10/802,304	03/17/2004	Clint Miller	TROU1100-1	3979

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EXAMINER	
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ART UNIT	PAPER NUMBER
2191	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,304	MILLER ET AL.	
	Examiner	Art Unit	
	TED T. VO	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,8,10-20,23,25-35,38 and 40-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8,10-20,23,25-35,38 and 40-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/08/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the communication filed on 12/01/2008.

Claims 1-5, 8, 10-20, 23, 25-35, 38, 40-50 are presented and pending.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to describe a statutory computer-readable medium, and thus a product, which is claimed in claims 31-35, 38, 40-45. Since computer-readable medium is referred to all media read by a computer, these media if they are not be defined will include non-statutory types. Therefore, it requires defining in the specification for supporting the claims. The language "data processing system readable medium" in p0052 fails to be specific to determine a statutory type. Applicants may use "memory storage" or "storage device" for substitution.

Response to Arguments

3. The claimed have been amended with newly added limitations. All Applicants' arguments to the rejection of claims based on these newly added limitations have been considered, but not persuasive. Muller shows they are discussing modeling that includes

the limitations recited in the claims. Applicants' argument remarks are moot in view of the new ground of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 31-35, 38, 40-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation "the computer" in "wherein the computer has a computer memory" (claim 31: lines 2-3) is insufficient antecedent basis. It requires revising the limitations.

Claim 38 is indefinite because it depends on the canceled claim 37.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. The claims 31-35, 38, 40-45 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

As per Claims 31-35, 38, 40-45:

Claims 31-35, 38, 40-45 recite a software product: "A software product comprising a set of instructions stored on a computer-readable medium, wherein the computer has a computer memory and a processor, wherein the software product comprises".

The software product does not set itself as a physical device. The language "computer-readable medium" fails to implement the claim comply with the 35 USC 101 as set forth since computer-readable medium might include non-statutory type.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5, 8, 10-20, 23, 25-35, 38, 40-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robert Muller, "Database Design for Smarties Using UML for Data Modeling", Morgan Kaufmann Publishers, 1999.

As per Claim 1: Muller discloses, *A method of modeling an arbitrarily complex environment, comprising:*

on a computer having a computer memory and a processor, defining a plurality of types of data structures ~~for dynamically accommodating changes to the arbitrarily complex environment~~ in a data model, wherein each of the data structures comprises components ~~component and relationships~~ one or more fields or properties associated with the data structure, wherein all data structures of the same type contain the same properties (E.g. UML classes. See p. 3: e.g. translate UML entities into database components. See p. 72, Figures 6-5 and 6-6; and see UML diagrams having entities that are *data structures of the same type contain the same properties*);

instantiating a component for ~~representing~~ each atomic entity in the arbitrarily complex environment ~~with a component in the data model, wherein each atomic entity is a logical or physical entity in the arbitrarily complex environment and~~ wherein ~~the~~ each component has a set of fields which contain information relating to the atomic entity associated with the component, wherein the set of fields comprises (refer to OO model, i.e . UML class becomes object type; see p. 100, fourth full paragraph. See p. 95 and 98, each entity is defined with id, a name, a description, a type, a property, and the presence of events):

a set of property fields containing information about the attributes or characteristics of the component; and

a field that contains a link to its component type;

assigning values to the properties in the instantiated component based on the attributes

of the entity which the component was instantiated to represent;

instantiating a relationship for representing an association or a dependency between two or more components in the data model (refer to p.95-104) ~~*with a relationship,*~~ *wherein each relationship comprises:*

~~*a name field containing a relationship name which is built programmatically and which automatically associates the relationship with two or more physical or logical entities that correspond to the two or more component*~~

a field that is a foreign key to its relationship type; and

a set of property fields containing information about one or more of the attributes of the relationship; and

storing the components in a schema, wherein property definitions of each component are linked to a type of component, wherein changes made to the type of component are automatically associated with all components of that type of component without changing the schema ~~*automatically changing the relationship*~~ *to reflect a corresponding change in the arbitrarily complex environment* (See, discussion of schema in the reference: e.g. Chapters 11 and 12, start at p. 166; and further see p. 78: Keys and relationships).

Muller does not address the data model as *modeling arbitrarily complex environment*. However, *modeling arbitrarily complex environment,* particularly is only changed in size, shape or ingredients that remain characterized with object relations of a data model.

Therefore, it is obvious to an ordinary in the art at the time of the filing to direct the UML, as disclosed by Muller characterized in an organization, to any data model, which is characterized with object relations, because the difference is only in names or shape of the models.

As per Claim 2: Muller discloses,

The method of claim 1, wherein each component is instantiated based on a generic component type and has a set of core attributes comprising an id, a name, a description, a type, and a set of properties (See p. 100, fourth full paragraph. See p. 95 and 98, each entity is defined with id, a name, a description, a type, a property, and the presence of events).

As per Claim 3: Muller discloses,

The method of claim 1, wherein each component type is in a hierarchy of component types (See Figures 11-1 and 2).

As per Claim 4: Muller discloses, *The method of claim 2, wherein each property has a data type of one of a string, a numeric, a Boolean, a link, a date/time and a custom type* (Refer to attributes of an entity).

As per Claim 5: Muller discloses, *The method of claim 2, wherein each property is a data structure having a name, a description and a value.*

As per Claim 8: Muller discloses, *The method of claim 1, wherein each relationship type is a parent type or a subtype* (see p. 30, "inheritance").

As per Claim 10: Muller discloses,

The method of claim 1, wherein each component is represented in a component table (properties of OO and UML, for example, within p. 37, "TABLE Person (….), and as noted that Relational database presents tables).

As per Claim 11: Muller discloses,

The method of claim 10, wherein each component type is represented in component type table (Refer to tables of relational database, and refer to the properties of OO and UML, for example, within p. 37, "TABLE TYPE ALIAS_TYPE (….)).).

As per Claim 12: Muller discloses,

The method of claim 11, wherein each relationship is represented in a relationship table (properties of OO and UML, and relational database).

As per Claim 13: Muller discloses,

The method of claim 12, wherein each relationship type is represented in relationship type table (properties of OO and UML, and relational database).

As per Claim 14: Muller discloses,

The method of claim 13, wherein the relationship table links each relationship to exactly two components (Note the association shown is created by table links, using properties such as one-to-many).

As per Claim 15: Muller discloses,

The method of claim 14, wherein the relationship table and the relationship type table are distinct (Muller discloses data structure of relational database that describes the relationship of tables, and Object model that describes the relationship class or types (p.

12). The data structure that presents a relational database is of the tables/schemas. The tables/schemas and types of class are distinct).

As per Claim 46: Muller discloses,

The method of claim 1, further comprising, utilizing a typing system to define the hierarchy of components and relationships (See all the teachings that refer to classes of UML: e.g. See p. 30).

As per Claim 47: Muller discloses, *The method of claim 46, wherein the typing system further includes a generic model structure to define a hierarchy of components and relationships* (See all the teachings that refer to classes hierarchy of OO using UML: e.g. See p. 30) .

As per Claim 48: Muller discloses, *The method of claim 47, wherein a data structure is associated with the generic data model* (refer to OO data model, or see p. 8).

As per Claim 49: Muller discloses,

The method of claim 48, wherein the data structure associated with the generic data model is stored utilizing a table schema (refer to mapping within OO/schema, e.g. see p. 159)

As per Claim 50: Muller discloses, *The method of claim 49, wherein the table schema does not change with an addition of a new data structure or types of data structures* (Miller shows its adding OO does not changes the Database data structure. See p. 12).

As per Claims 16-20, 23, 25-30: See rationale addressed in Claims 1-5, 8, 10-15, 46-50.

As per Claims 31-35, 38, 40-45: See rationale addressed in Claims 1-5, 8, 10-15, 46-50.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708.

The facsimile number for the organization where this application or proceeding is assigned is the Central Facsimile number **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTV
February 11, 2009

/Ted T. Vo/
Primary Examiner, Art Unit 2191